



# **A SAVI Response to SARS**

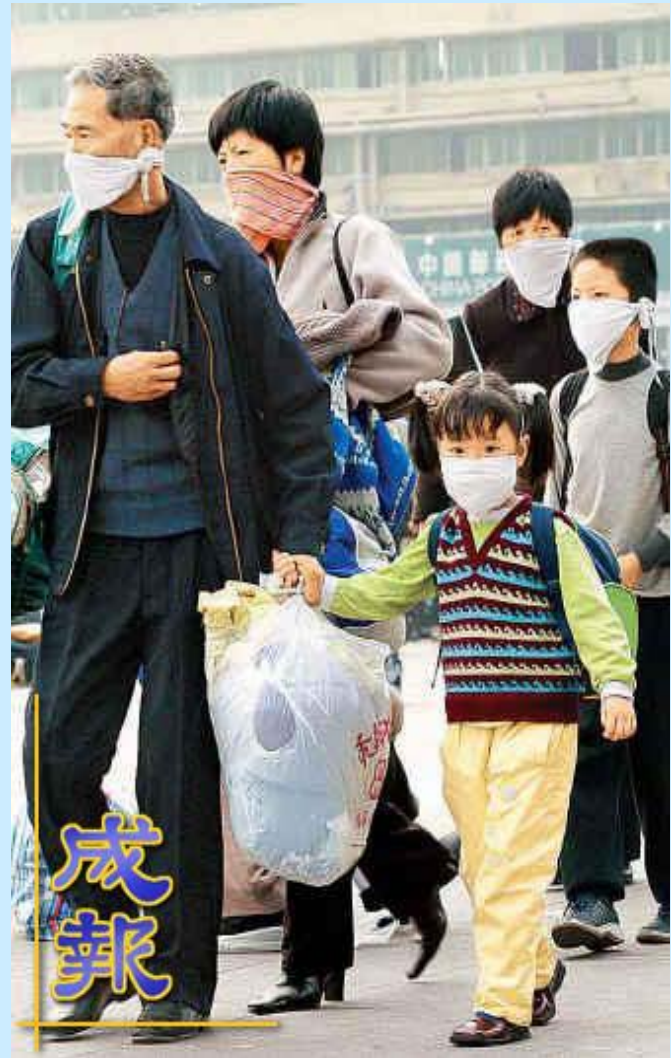
Can we rapidly develop a SARS human vaccine?

B. Brett Finlay, UBC

## November, 2002

- Weird flu-like illness in China
- Spread rapidly by international travel
- Is this a potential pandemic influenza?

**SARS total cost  
estimate  
= \$30-90 billion**



# Canada and SARS



- 438 probable and suspect cases
- 44 deaths
- Health care professionals accounted for 42% of national cases (highest in world)
- WHO International travel advisory resulted in widespread economic implications

**No obvious cause  
No diagnosis +  
No treatment**

**=**

**FEAR**

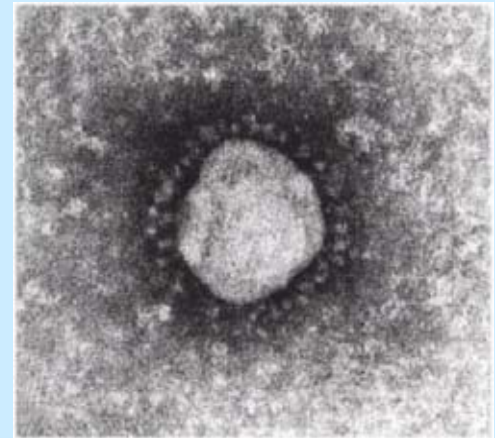
# B.C. and SARS



- 4 probable cases
- 0 deaths
- Fast action by the British Columbia Centre for Disease Control (BCCDC) spared an outbreak

**April 13, 2003**

BC scientists first in world to sequence the genome of the SARS coronavirus!



# Future Prevention



- BC CDC and Dr. Brett Finlay began to set up a rapid response research team to develop a human SARS vaccine
- April 29, 2003 – BC government funded SAVI \$2.6 million
- Dr. Finlay appointed Director of SAVI
- Bob Brunham (BC CDC) appointed Associate Director of SAVI

**Can it be done?**

# Normal Human Vaccine Developmental Process



- Research Phase (2-3 years)
  - Identify Ag/Produce Ag/Test in Animals/  
Proof of Concept
- Early Development Phase (2-3 years)
  - Phase I Safety Trials
- Late Development Phase (2-3 years)
  - Phase II Dose Safety
  - Phase III Efficacy
- Registration Phase (1-3 years)
  - File, Registration

# The SAVI Difference



**Historically = \$200 million  
And 10 years  
minimum**

**SAVI =**

**Vaccine should  
be available  
next season**

# An alternate approach to research



- Use rapid response science program
- Michael Smith Foundation manages funds
- Parallel research strategies designed to develop vaccine rapidly
- Unprecedented research mechanism



# SAVI Science



## Where are we?

- Leading edge internationally
- Most complete program internationally
- Already testing in animals
- Primates next step
- Human testing in fall 2004 if SARS active

# Conclusion



- Rapid response approach works
- SAVI is on schedule and on budget
- 3 vaccine candidates being tested in animals
- Working rapidly towards human trials and commercialization
- Paradigm for rapid vaccine response to emerging infectious diseases
  - Apply to other emerging ID as needed?
  - E. coli, Cryptococcus, Norwalk, BSE, West Nile, SARS

**What's next? Are we ready?**



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